

WHAT IS CLAIMED IS:

1. A display apparatus comprising:

a plurality of pixel circuits;

a plurality of light-emitting elements each of

5 which is arranged for a corresponding one of the pixel circuits and emits light at a luminance corresponding to a driving current;

luminance gray level designation means for supplying, to a signal line through the pixel circuit,  
10 a gray level designation current having a current value larger than that of the driving current during a selection period to store a luminance gray level of the light-emitting element in the pixel circuit; and

current value switching voltage output means for  
15 outputting a first voltage to the pixel circuit to cause the luminance gray level designation means to supply the gray level designation current to the signal line through the pixel circuit during the selection period, and outputting a second voltage having a  
20 potential different from that of the first voltage to the pixel circuit during a nonselection period, thereby modulating a current output from the pixel circuit on the basis of the luminance gray level stored in the pixel circuit to supply the driving current to the  
25 pixel circuit.

2. An apparatus according to claim 1, wherein each of the pixel circuits includes

a first switching element which has a control terminal and a current path having one end connected to the current value switching voltage output means and the other end connected to the light-emitting element,

5        a second switching element which has a control terminal and a current path having one end connected to the current value switching voltage output means and the other end connected to the control terminal of the first switching element, and

10       a third switching element which has a control terminal and a current path having one end connected to the other end of the current path of the first switching element.

3. An apparatus according to claim 2, wherein the  
15       current value switching voltage output means outputs the first voltage to the one end of the current path of the first switching element so that the gray level designation current that flows to the current path of the first switching element becomes a saturation  
20       current during the selection period.

4. An apparatus according to claim 2, wherein the  
current value switching voltage output means outputs the second voltage to the one end of the current path of the first switching element so that the driving  
25       current that flows to the current path of the first switching element becomes a nonsaturation current during the nonselection period.

5. An apparatus according to claim 2, wherein the luminance gray level designation means is connected to the other end of the current path of the third switching element.

5           6. An apparatus according to claim 2, further comprising selection scanning means for outputting a selection signal to the control terminal of the second switching element and the control terminal of the third switching element.

10           7. An apparatus according to claim 1, wherein each of the pixel circuits includes

          a first switching element which has a control terminal and a current path having one end connected to the current value switching voltage output means and  
15           the other end connected to the light-emitting element,

          a second switching element which has a control terminal and a current path having one end connected to a selection scanning means and the other end connected to the control terminal of the first  
20           switching element, and

          a third switching element which has a control terminal and a current path having one end connected to the other end of the current path of the first switching element.

25           8. An apparatus according to claim 1, wherein the second voltage is lower than the first voltage.

          9. An apparatus according to claim 1, wherein

each of the pixel circuits has a transistor connected in series with the light-emitting element,

the first voltage is a saturation voltage that saturates a path between a source electrode and a drain electrode of the transistor, and

the current value of the driving current complies with a voltage value of a gate voltage applied to a gate electrode of the transistor.

10. An apparatus according to claim 1, wherein each of the pixel circuits has a transistor connected in series with the light-emitting element, the second voltage is applied between a source electrode and a drain electrode of the transistor, and the current value of the driving current complies with a voltage value of the second voltage and a voltage value of a gate voltage applied to a gate electrode of the transistor.

11. A driving method for a display apparatus which comprises a plurality of pixel circuits and causes light-emitting elements each of which is arranged for a corresponding one of the pixel circuits to emit light in accordance with a predetermined driving current to execute display, comprising:

outputting a first voltage to the pixel circuit to supply a gray level designation current having a current value larger than that of the driving current to a signal line through the pixel circuit during a

selection period and store, in the pixel circuit, a luminance gray level of the light-emitting element corresponding to the current value of the gray level designation current; and

5           outputting a second voltage having a potential different from that of the first voltage to the pixel circuit during a nonselection period to modulate the driving current output from the pixel circuit on the basis of the luminance gray level stored in the pixel  
10       circuit.

12. A method according to claim 11, wherein each of the pixel circuits includes

          a first switching element which has a control terminal and a current path having one end to which one  
15       of the first and second voltages is selectively input and the other end connected to the light-emitting element,

          a second switching element which has a control terminal and a current path having one end to which the  
20       first voltage is input during the selection period and the other end connected to the control terminal of the first switching element, and

          a third switching element which has a control terminal and a current path having one end connected to  
25       the other end of the current path of the first switching element.

13. A method according to claim 11, wherein each

of the pixel circuits includes

5 a first switching element which has a control terminal and a current path having one end to which one of the first and second voltages is selectively input and the other end connected to the light-emitting element,

10 a second switching element which has a control terminal and a current path, in which a selection scanning signal is input to one end of the current path and the control terminal during the selection period, and the other end is connected to the control terminal of the first switching element, and

15 a third switching element which has a control terminal and a current path having one end connected to the other end of the current path of the first switching element.

14. A method according to claim 11, wherein the second voltage is lower than the first voltage.

20 15. A method according to claim 11, wherein each of the pixel circuits has a transistor connected in series with the light-emitting element,

the first voltage is a saturation voltage that saturates a path between a source electrode and a drain electrode of the transistor, and

25 the current value of the driving current complies with a voltage value of a gate voltage applied to a gate electrode of the transistor.

16. A method according to claim 11, wherein  
the pixel circuit has a transistor connected in  
series with the light-emitting element,

5 the second voltage is applied between a source  
electrode and a drain electrode of the transistor, and  
the current value of the driving current complies  
with a voltage value of the second voltage and a  
voltage value of a gate voltage applied to a gate  
electrode of the transistor.